

CHANGES IN THE BREEDING BIRDS OF BIRD HAVEN SANCTUARY OVER A PERIOD OF FORTY-FIVE YEARS

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BIRD Haven, the Robert Ridgway Memorial Bird Sanctuary and Arboretum, just north of Olney, Richland County, Illinois, had its beginning in October, 1906, only three years after the Federal Government established its first sanctuary. Robert Ridgway, then Curator of Birds at the United States National Museum, bought eight acres of young timber as a country home, a bird sanctuary, and an arboretum.

Interested in birds from his early childhood, Ridgway had begun, at the age of 13, to keep records of the birds of his home, Mt. Carmel, Illinois. In his search for the names of the birds he observed, chance brought him a great teacher, Spencer F. Baird of the Smithsonian Institution, who not only named the bird drawings Ridgway sent him, but gave help in keeping his bird records and in improving his bird pictures. With four years of bird observations completed, Robert Ridgway, through Baird's recommendation, was appointed Zoologist for the survey of the 40th Parallel in the far west. When only a boy of 17, Ridgway left for this outstanding position (April, 1867) with the resolve to return some day to live in southern Illinois.

After 40 years of waiting, Bird Haven with its wooded hills, treeless lowlands, and spring-fed stream was that dream come true. Many scientific articles and books had come from Robert Ridgway's pen in those years, his thirty-first being his observations on the birds of the Lower Wabash Valley (Ridgway, 1874). Since 1894 his work at the Museum had been the writing of "Birds of North and Middle America," a great undertaking, but one which advanced his return to southern Illinois. He could live in the country and continue his writing. With the preparatory planning and research much advanced, the first three volumes published, and the fourth (Ridgway, 1907) in progress, he bought Bird Haven. During three summers Ridgway and his wife lived there, counted the birds as they arrived, and listed the breeding birds and the unusual migrants. In 1908, the Ridgways' country home was increased to 18 acres.

During the summer of 1910 they lived in the big house on the farm adjoining Bird Haven on the north and east. Mr. Ridgway found time to search the farm for breeding birds not found on Bird Haven. The extreme heat of that summer revealed that Bird Haven was not desirable as a summer home. In October, a modern brick house on eight acres of ground was purchased in South Olney. The name, Larchmound, given by the original owner, was retained, and here the Ridgways lived the summers of 1911 and 1912, and began "year round" living in June, 1913 (Ridgway, 1915a).

Mr. Ridgway's plans for an endowment for Bird Haven were incomplete at the time of his sudden death on March 25, 1929. Mrs. Frances K. Hutchinson, a woman of means, a friend of conservation and of Mr. Ridgway and his work on Bird Haven, not only increased the endowment beyond Mr. Ridgway's figure but added the farm (about 100 acres) where the Ridgways had lived in 1910. This memorial to Robert Ridgway she deeded to the University of Chicago in 1932 (see Fig. 1).

I began the present study because there were breeding birds at Bird Haven that were new to me: American Woodcock, Bell's Vireo, and Cerulean Warbler. The work was planned by the late W. C. Allee, who stressed the fact that changes in the bird population could be expected due to changes in the vegetation since the publication of Ridgway's list (1914). My first observations were made in 1945 (78 hours), and annual studies were made from 1947 through 1955. For most of this period, I spent an average of 160 hours per year on the study area, but in 1954 daily trips were made during April, May, June, and most of July, for a total of 270 hours. All observations are my own except for that of Traill's Flycatcher, which was seen and heard by Robert Kirby on May 1, 1954. The House Sparrow (*Passer domesticus*) was omitted from the study.

Evidence of nesting was determined by finding an occupied nest, by seeing young being fed, or by finding a singing male throughout the breeding season. Only the Yellow-throated Vireo was listed as a nesting species on the basis of a singing male on the area. The persistent efforts of the Marsh Hawk to drive off intruders from a portion of the farm give it nesting status as far as I was concerned.

The nesting of the Whip-poor-will was in doubt until May 1, 1954, when a group of visitors flushed the adult from a nest. Jerry Chaniot from Decatur was the first to locate the nest with its two eggs. The Whip-poor-will was given regular nesting status because it was heard singing in other years. The Ruby-throated Hummingbird's nest was found when a strong wind dislodged it during August, 1954.

It gives me great pleasure to acknowledge the cooperation and valuable assistance I received from several bird students of the Olney area: Mrs. Chester Scherer, who has bird records for more than 25 years; Mrs. Vera Scherer Shaw; and Mr. and Mrs. W. R. Bridges.

After 47 years, the young trees of the 18 acres, both the native forms and those added by Mr. Ridgway, show some of the grandeur, vine-drapery, and abundant undergrowth of a virgin forest. Trees grow rapidly in southern Illinois, as shown by measurements of several fallen specimens on Bird Haven, just eight years old (Ridgway, 1918:8). A sycamore (*Platanus occidentalis*) had a diameter of 12 inches and a height of more than 40 feet; the elms (*Ulmus americana*) were only slightly smaller than this. The fallen tree is

becoming more common and here and there are "den" trees. The tree growth on the lowlands almost hides the main stream on the 18 acres as well as its many divisions on the farm. The more or less heavily wooded stretches of the farm, except for some planted areas, are the result of Nature being allowed to take over the cultivated fields and pastures of 1910 and later. The wooded stretches on either side of the north part were planted by the University. A shrubby growth covers what appears to be open spaces on the farm.

BREEDING BIRDS 1945-1955

The 18-acre woods, with paths used for 50 years, supported 41 nesting species (Table 1). Only 39 species nested there until 1954, when the Prothonotary Warbler nested in a stump of a river birch (*Betula nigra*) along an overflow of the main stream, and the Yellow-throated Warbler made its home in a tall sycamore. Both species returned to nest the next year.

The farm, reduced to 85 acres in the early part of the study, is unlike the woods in having no paths. Fifty breeding species (Table 1) were found there, with the count in 1945 being the largest, when three of the four new breeding species were present.

The two areas attracted 31 of the same species for nesting. Ten species nested only in the woods, whereas 19 species nested only on the farm. In recent years it has seemed that some species, now confined to the woods, may in time nest on the farm. The Prothonotary and Yellow-throated Warblers, for example, were seen many times along the stream on the farm even through early June, during the last two years of the study.

There were eight breeding birds new to the area since 1910, with only the Starling present each year (1945-1955). This species was first seen in the Olney area by Mr. Ridgway in January, 1928, as reported by Brodkorb (1929).

COMPARISON OF BREEDING BIRDS OF 1907-1910 AND 1945-1955

The first report (Ridgway, 1914), for the period of 1907-1910, listed 72 breeding birds for the woods and the farm. In 1927 the Song Sparrow became the seventy-third breeding species (Ridgway, 1929a:1). In the period of 1945-1955, 52 of the 73 species nested in either the woods or the farm, the distribution being 37 on the 18 acres and 46 on the farm. For the early period, about 73 per cent of the breeding species were recorded for the 18 acres in the four years of observation (1907-1910), while the farm, with one year of observation (1910), had only 25 per cent of the total. It would appear that Ridgway searched the farm in order to find breeding birds not found on the 18 acres, rather than to list all breeding birds. It seems safe to assume that some of the breeding species were common to both areas then, as is true today.



FIG. 1. Aerial photograph of Bird Haven and surroundings made by the U. S. Department of Agriculture, July 24, 1953. North is at the top. Dotted lines show approximate boundary of the sanctuary today. The 18 acres in the south portion show a dense woods with few open spaces. Note the wooded stream leaving the farm on the east.

TABLE I
BREEDING BIRDS OF BIRD HAVEN SANCTUARY

Species	Status				No. of Years Present
	1907-1910		1945-55		
	Woods	Farm	Woods	Farm	
Green Heron (<i>Butorides virescens</i>)	B			B	9
Red-shouldered Hawk (<i>Buteo lineatus</i>)	B		B	B	10
Marsh Hawk (<i>Circus cyaneus</i>)*				B	1
Sparrow Hawk (<i>Falco sparverius</i>)	B			M	1
Bobwhite (<i>Colinus virginianus</i>)	B			B	10
Killdeer (<i>Charadrius vociferus</i>)		B	Flying over		1
American Woodcock (<i>Philohela minor</i>)		B		M	2
Spotted Sandpiper (<i>Actitis macularia</i>)		B			
Mourning Dove (<i>Zenaidura macroura</i>)	B		B	B	10
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	B		B	B	10
Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>)	B		M	M	4
Barred Owl (<i>Strix varia</i>)	B		B		10
Whip-poor-will (<i>Caprimulgus vociferus</i>)	B		B		10
Chimney Swift (<i>Chaetura pelagica</i>)*				B	1
Ruby-throated Hummingbird (<i>Archilochus colubris</i>)		B	B	B	10
Yellow-shafted Flicker (<i>Colaptes auratus</i>)	B		B	B	10
Red-bellied Woodpecker (<i>Centurus carolinus</i>)	B		B	B	10
Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>)	B		B	B	6
Hairy Woodpecker (<i>Dendrocopos villosus</i>)	B		B	B	10
Downy Woodpecker (<i>Dendrocopos pubescens</i>)	B		B	B	10
Eastern Kingbird (<i>Tyrannus tyrannus</i>)	B			B	10
Great Crested Flycatcher (<i>Myiarchus crinitus</i>)	B		B	B	10
Eastern Phoebe (<i>Sayornis phoebe</i>)	B		B		10
Acadian Flycatcher (<i>Empidonax virescens</i>)	B		B	B	10
Traill's Flycatcher (<i>Empidonax traillii</i>)		B		M	1
Eastern Wood Pewee (<i>Contopus virens</i>)	B		B	B	10
Purple Martin (<i>Progne subis</i>)*				B	1
Blue Jay (<i>Cyanocitta cristata</i>)	B		B	B	10
Common Crow (<i>Corvus brachyrhynchos</i>)	B		B	B	10
Carolina Chickadee (<i>Parus carolinensis</i>)	B		B	B	10
Tufted Titmouse (<i>Parus bicolor</i>)	B		B	B	10
White-breasted Nuthatch (<i>Sitta carolinensis</i>)	B		B		10
House Wren (<i>Troglodytes aedon</i>)	B		B	B	8
Bewick's Wren (<i>Thryomanes bewickii</i>)		B	B	B	5
Carolina Wren (<i>Thryothorus ludovicianus</i>)	B		B	B	10
Mockingbird (<i>Mimus polyglottos</i>)		B		B	1
Catbird (<i>Dumetella carolinensis</i>)	B		B	B	10
Brown Thrasher (<i>Toxostoma rufum</i>)	B			B	10
Robin (<i>Turdus migratorius</i>)	B		B	B	10
Wood Thrush (<i>Hylocichla mustelina</i>)		B	B	B	10

TABLE 1 (Continued)

Species	Status				No. of Years Present
	1907-1910		1945-55		
	Woods	Farm	Woods	Farm	
Eastern Bluebird (<i>Sialia sialis</i>)	B		B	B	10
Blue-gray Gnatcatcher (<i>Poliophtila caerulea</i>)	B		B	B	10
Cedar Waxwing (<i>Bombycilla cedrorum</i>)		B		B	10
Starling (<i>Sturnus vulgaris</i>)*			B		10
White-eyed Vireo (<i>Vireo griseus</i>)	B			B	3
Bell's Vireo (<i>Vireo bellii</i>)		B		B	10
Yellow-throated Vireo (<i>Vireo flavifrons</i>)	B		B	B	3
Red-eyed Vireo (<i>Vireo olivaceus</i>)	B		B	B	10
Warbling Vireo (<i>Vireo gilvus</i>)		B	M	M	2
Black-and-white Warbler (<i>Mniotilta varia</i>)		B	M	M	10
Prothonotary Warbler (<i>Protonotaria citrea</i>)*			B		2
Yellow Warbler (<i>Dendroica petechia</i>)		B		B	1
Cerulean Warbler (<i>Dendroica cerulea</i>)		B	M		2
Yellow-throated Warbler (<i>Dendroica dominica</i>)*			B		2
Prairie Warbler (<i>Dendroica discolor</i>)*				B	1
Ovenbird (<i>Seiurus aurocapillus</i>)*			B		2
Louisiana Water Thrush (<i>Seiurus motacilla</i>)	B		B		3
Kentucky Warbler (<i>Oporornis formosus</i>)	B		B	B	10
Yellowthroat (<i>Geothlypis trichas</i>)	B			B	10
Yellow-breasted Chat (<i>Icteria virens</i>)	B			B	10
American Redstart (<i>Setophaga ruticilla</i>)	B		M	M	10
Eastern Meadowlark (<i>Sturnella magna</i>)	B			M	10
Redwinged Blackbird (<i>Agelaius phoeniceus</i>)	B			M	2
Orchard Oriole (<i>Icterus spurius</i>)	B			B	10
Baltimore Oriole (<i>Icterus galbula</i>)	B		M		10
Common Grackle (<i>Quiscalus quiscula</i>)		B	M	M	2
Brown-headed Cowbird (<i>Molothrus ater</i>)	B		B	B	10
Scarlet Tanager (<i>Piranga olivacea</i>)	B		M	M	10
Summer Tanager (<i>Piranga rubra</i>)	B		B	B	10
Cardinal (<i>Richmondia cardinalis</i>)	B		B	B	10
Blue Grosbeak (<i>Guiraca caerulea</i>)	B		M		2
Indigo Bunting (<i>Passerina cyanea</i>)	B		B	B	10
Dickcissel (<i>Spiza americana</i>)		B	M		1
American Goldfinch (<i>Spinus tristis</i>)		B		B	10
Rufous-sided Towhee (<i>Pipilo erythrophthalmus</i>)	B			B	10
Grasshopper Sparrow (<i>Ammodramus savannarum</i>)		B			
Lark Sparrow (<i>Chondestes grammacus</i>)		B			
Bachman's Sparrow (<i>Aimophila aestivalis</i>)	B				
Chipping Sparrow (<i>Spizella passerina</i>)	B		B		10
Field Sparrow (<i>Spizella pusilla</i>)	B			B	10
Song Sparrow (<i>Melospiza melodia</i>)	B		M	M	10

Key: Woods—the 18 acres; Farm—land added to Bird Haven in 1929; B—Breeding; M—Migrant;
* species added in the 1945-1955 study.

Of the 21 species no longer nesting in either area, 17 were migrants in one or both areas in the 10 years of this study (see Table 1). Three of the remaining four were seen in the Olney area, the Spotted Sandpiper as a migrant, the Grasshopper and Lark Sparrows as breeding birds. Bachman's Sparrow, however, was not seen in any part of Richland County in the whole 10 years. This species seems to have made the most decided change of the 21 species.

There were changes in the breeding birds in both the woods and the farm in the 10 years, most of which were from unknown causes. Only the absence of the Chimney Swift, Purple Martin, and Mockingbird after the first year, seemed to have an explanation. All were associated with the home of the custodian in 1945. After this house burned and the site, some 13 acres, was sold, these species failed to find a new nesting location, even though the martin house was moved to the new home in the woods. The Prairie Warbler, found nesting on the farm in 1945, was seen only once after that (May 2, 1954).

My lack of knowledge of the song of Traill's Flycatcher may account for the limited records for this species. A report of breeding birds on Larchmound (Ridgway, J. E., 1924:38) states that this species nested only one year out of seven. Mr. Ridgway had only one record of the nesting of the Blue Grosbeak.

CHANGES IN BIRD LIFE

Mr. Ridgway wrote (1929*b*:177) to Frank M. Chapman that "As years go by I am more and more impressed by the marked difference in bird life in different years. This is true of both summer and winter residents." Seventy per cent of the breeding species of the 1907-1910 period did not change in the 45 years; the 30 per cent that did change are given attention here.

The 21 species no longer nesting in either the woods or the farm may be separated into two groups: (1) species nesting in the Olney area; and (2) species nesting outside the Olney area. The varying abundance of Group (1) is shown by the listing as common, uncommon, or rare elsewhere in the Olney area.

Common—each in a habitat not well represented on Bird Haven:

Sparrow Hawk	Redwinged Blackbird
Killdeer	Common Grackle
Warbling Vireo	Dickcissel
Eastern Meadowlark	Song Sparrow

Uncommon—known to nest *some* years, the last two species in habitats not found on Bird Haven:

American Woodcock	Grasshopper Sparrow
Baltimore Oriole	Lark Sparrow

Rare—known nesting limited to the dates given:

Cerulean Warbler, 1954, 1955

American Redstart, 1955

There are no recent nesting records for the following species at Bird Haven or the Olney area:

Spotted Sandpiper

Scarlet Tanager

Black-billed Cuckoo

Blue Grosbeak

Traill's Flycatcher

Bachman's Sparrow

Black-and-white Warbler

The present status of eight species that were on the decrease in 1915 (Ridgway, 1915*a, b, c*) may be summarized as follows:

Yellow Warbler: Absent; one known nesting in 45 years.

Baltimore Oriole: On the decrease until 1950, but some nesting since that time.

White-eyed Vireo: Present in most years but irregular.

Dickcissel: Common, but makes frequent changes in nesting field.

Carolina Wren, Wood Thrush, Warbling Vireo, and Yellow-breasted

Chat: Abundant. The first two were reported as common by 1929 (Ridgway, 1929*a*:1).

SUMMARY AND CONCLUSIONS

This study (1945–1955) of the bird life of the 18 acres of woods and the 85 acres of farm land composing Bird Haven resulted in the recording of 60 species of breeding birds, 41 for the woods and 50 for the farm. Slightly more than half of the 60 species were found in both areas.

The woods had 10 species of breeding birds not found on the farm, whereas the latter, with a greater area and a more varied habitat, had 19 species not found in the woods.

A comparison with the list of the birds found breeding here by Ridgway in the period 1907–1910 showed 52 species still nesting in either the woods or the farm, more than half being found in both regions. Twenty-one species of the earlier report no longer nested in either; 17 of these were recorded as migrants in this study, and 14 were known to nest in the Olney area, many in habitats not well represented in either the woods or the farm. Seven species, or one-third of the 21, for which there were no nesting records for the Olney area in 10 years, were thought to have changed their nesting for unknown causes.

The bird life of the study area changed over the 10-year period in this study, as well as over the relatively long period (40 years) between the two studies. These changes were apparently due to changes in habitats. Some species on

the decrease in 1915 were common to abundant for the whole period of the present study, while others were absent. One, the Baltimore Oriole, on the decrease for more than 50 years, returned to nest in small numbers in the Olney area since 1950, while the Yellow Warbler, scarce in 1915, has not reappeared. Only one (Starling) of the eight new breeding species of this study was present each year.

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